

## PAHAL Program

### Fiscal Year 2019 Annual Results Report

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## ACRONYMS

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ABCD	Annual Beneficiary Collection of Data
AGCD	Agricultural Collection of Data Survey
ARR	Annual Results Report
CFUG	Community Forest User Group
DFO	District Forest Office
DRR	Disaster Risk Reduction
DDRC	District Disaster Risk Management Committee
DPRC	Disaster Preparedness and Response Committee
DEOC	District Emergency Operating Center
EMMP	Environmental Mitigation and Monitoring Plan
EWS	Early Warning System
FFP	Office of Food for Peace
FLT	Financial Literacy Training
FY	Fiscal Year
IO	Intermediate Outcome
IPM	Integrated Pest Management
IPTT	Indicator Performance Tracking Table
Kg	Kilogram
LDMC	Local Disaster Management Committee
M&E	Monitoring and Evaluation
MSME	Micro, Small and Medium Enterprises
M/RM	Municipality/Rural Municipality
MUS	Multiple Use Water System
NPR	Nepalese Rupee
NRM	Natural Resource Management
NTFP	Non-Timber Forest Products
O&M	Operations and Management
PAHAL	Promoting Agriculture, Health and Alternative Livelihoods
SFM	Sustainable Forest Management
STRESS	Strategic Resilience Assessment
Sub-IO	Sub-Intermediate Objective
TOC	Theory of Change
USAID	United States Agency for International Development
WUG	Water User Group
WASH	Water, Sanitation and Hygiene
WASH-CC	Water, Sanitation and Hygiene Coordination Committee
WQAP	Water Quality Assurance Plan

## Table of Contents

<b>Executive Summary .....</b>	<b>4</b>
<b>Program Description.....</b>	<b>4</b>
<b>Building Resilience for Food Security: PAHAL's Theory of Change.....</b>	<b>4</b>
<b>PAHAL's Integrated Program Structure .....</b>	<b>5</b>
<b>PAHAL Interventions and Results.....</b>	<b>7</b>
<b>Building Access to Resilience Capacities for Food Security: PAHAL's Sub-IOs ....</b>	<b>7</b>
Sub-IO 1: Increased Access to Quality Health and Nutrition Services and Information .....	7
Sub-IO 2: Better Access to Improved WASH Services, Strategies and Technologies .....	8
Sub-IO 3: Improved Access to Improved Disaster Risk Management Services, Strategies and Technologies.....	11
Sub-IO 4: Improved Access to Appropriate, Diverse Financial Services & Products .....	12
Sub-IO 5: Improved Access to Dynamic and Responsive Agricultural and Non-Agricultural Markets .....	13
Sub-IO 6: Improved Access to Productive Natural Resources and Resource Management Practices.....	15
Sub-IO 7: Increased Participation, Agency and Voice of Vulnerable Groups in Governance Processes .....	16
<b>Applying Resilience Strategies for Food Security: PAHAL's IOs.....</b>	<b>18</b>
IO 1: Improved WASH, Health and Nutrition Strategies are Effectively Employed Across Diverse Caste Groups.....	18
IO 2: Improved Coping and Preparedness Strategies are Effectively Employed across Diverse Gender and Caste Groups.....	19
IO 3: Effective Adaptive Agricultural and Off-Farm Livelihood Strategies Are Employed Across Diverse Gender and Caste Groups. ....	20
IO 4: Governance Systems – Formal and Informal – are Accountable, Equitable, and Effective in Supporting Vulnerable Populations across Diverse Caste & Gender groups .....	21
<b>PAHAL's Progress Towards Food Security: Purpose-level Results.....</b>	<b>22</b>
<b>Challenges, Successes, and Lessons Learned .....</b>	<b>24</b>

## **Executive Summary**

The Promoting Agriculture, Health and Alternative Livelihoods (PAHAL) program, funded by the U.S. Agency for International Development's (USAID) Bureau for Democracy, Conflict and Humanitarian Assistance/Office of Food for Peace (FFP), is a five-year program that commenced on October 17, 2014. This Annual Results Report (ARR) covers progress made in the program's fifth implementation year (October 1, 2018 to September 30, 2019).

The PAHAL program operates in the middle and high hills of Mid-West and Far-West Nepal, targeting vulnerable, remote households susceptible to food insecurity. PAHAL takes a systems approach to address the underlying socio-political, economic and ecological constraints and the related shocks and stresses that drive food insecurity in Nepal. In FY19, PAHAL targeted 45,000 individuals (72% female; 28% male; 30% youth; >2% boys and girls) with interventions in ecological, economic, social and transformative resilience systems. PAHAL aims to strengthen each system to improve food availability, access and utilization despite the persistence of shocks and stresses hampering development goals.

For FY19, PAHAL is able to report substantial food security impacts, including a Household Hunger Score (HHS) close to zero, strong Food Consumption Score (FCS) and Coping Strategy Index (CSI) indexes, and high consumption rates of nutritious foods. PAHAL increased citizen's self-reliance by working with community groups and the local government to increase their capacity to plan and manage solutions to their development challenges.

## **Program Description**

The PAHAL program implements, through a systems approach, strategically linking sub-intermediate outcomes (Sub-IOs) within resilience pathways identified during a Strategic Resilience Assessment (STRESS) conducted at the beginning of the program. PAHAL strengthens each system to contribute to improved food availability, access and utilization — with each system contributing to multiple program purposes — through a facilitative, carefully coordinated, and integrated approach designed to reduce the risk of backsliding and increase the likelihood of sustained poverty alleviation.

## **Building Resilience for Food Security: PAHAL's Theory of Change**

PAHAL's Theory of Change (ToC) highlights the three mutually reinforcing pillars of food security: food utilization (Purpose 1), food access (Purpose 2) and food availability (Purpose 3). PAHAL's ToC is built upon assumptions that PAHAL's contribution to food security will not be derailed by shocks and stresses, but instead, by purposefully layering and integrating program interventions (Outputs), planned resilience capacities (Sub-IOs) will be realized that can simultaneously be applied by households (IOs and Sub-Purposes) and communities, and lead to greater food security (Purposes).



Figure 1 The PAHAL Theory of Change, highlighting a resilience pathway

The program's Sub-IOs are linked to Sub-Purposes to form resilience pathways, which enable people in PAHAL's vulnerable communities to:

- Better cope with and absorb shocks and stress;
- Adapt to better health and livelihood strategies to reduce exposure to and impact of shocks and stresses; and
- Recover quickly and 'bounce back better' through transformed systems in the face of shocks and stresses

Each of the program's resilience pathways utilizes integrated outputs and Sub-IOs to increase program impact. For example, ecological system interventions improve access to water which are then layered with economic system interventions that increase access to productive loans and a robust agricultural input system, allowing individuals to apply their increased capacity on climate-sensitive techniques for effective agriculture production leading to improved **food access and availability**. In addition, access to water is combined with water, sanitation and hygiene (WASH) and nutrition technologies and messages, allowing households to exercise appropriate food selection and preparation practices leading to improved **food utilization**. Finally, the same water interventions are supported by disaster risk reduction (DRR) interventions, strengthened governance systems, improved natural resource management and effective financial management knowledge, to ensure that natural disasters or poor management do not deter access to water.

## PAHAL's Integrated Program Structure

PAHAL's FY19 implementation strategy focused on increasing resilience capacities through its integration approach and sustainability plans. In August 2018, each technical sector reviewed PAHAL's results to date using Tufts University's Sustainability Framework around sustained knowledge, resources, motivation, and capacity and developed a sustainability and exit strategy for each of the component's associated community groups. These strategies were used to identify FY19 activities as described below and in the Detailed Implementation Plan (DIP) to ensure community groups will continue to apply food security and resilience activities beyond PAHAL's presence in the community. In addition to implementing strategic technical interventions, PAHAL managed an extensive learning agenda, with key lessons learned shared through this report, to leverage the program's influence beyond the program's end. PAHAL has collected a wealth of data through its routine monitoring, annual surveys and resilience measurement initiatives, which will be continuously analyzed and packaged for effective impact communication pieces during program closeout.

Participation through multiple program systems and purposes is essential for households' sustainable food security. PAHAL, in compliance with USAID/FFP Monitoring and Evaluation (M&E) guidelines, tracked participants and households by Purpose and resilience system. In PAHAL's preliminary resilience measurement findings, participants described using a variety of

strategies at once as positive coping mechanisms in response to a shock,<sup>1</sup> reaffirming PAHAL's integrative resilience system approach and ToC. The total unique direct households table below shows how PAHAL program participants have benefited from one or multiple interventions programmed to contribute to each Purpose. PAHAL identified each program intervention as contributing to P1, P2 and/or P3 to determine the figures in *Table 1*.

**Table 1 Number of Unique PAHAL households receiving USG assistance in support of the program purposes**

	Total Unique, Direct	Purpose 1 Utilization	Purpose 2 Access	Purpose 3 Availability	Purpose 1 and 2	Purpose 1 and 3	Purpose 2 and 3	Purpose 1, 2 and 3
<b>Number of Households</b>	41,162	898	2,279	18,483	846	809	4,356	13,491

In FY19, PAHAL participants reported an increased number of shocks and stresses, including heavy hailstorms, unexpected snowfall and wildlife damage, which affected agricultural output. These shocks and stresses create barriers to resilient food security outcomes. In response, PAHAL increased efforts to ensure the integration of interventions by formalizing its Resilience Integration Approach and developing corresponding M&E tools to track if food security outcomes are resilient to shocks and stresses. PAHAL's experience has shown that integration is easier at intersections across systems where mutual benefit exists and groups have strong incentives for collaboration. Unique participation by resilience system is shown below in *Table 2*, where interventions are identified by its primary system, regardless of how many other sectors are involved in the implementation and coordination of a specific intervention.

**Table 2 Unique Participants Table by Resilience System**

	Social	Economic	Ecological	Transformative
Social	1,082	1,173	193	107
Economic		28,629	3,784	3,434
Ecological			3,808	488
Transformative				1,424
Unique Participation in 3 or 4 Systems				
Social/Economic/Ecological	465	Social/Ecological/Transformative		59
Social/Economic/Transformative	570	Economic/Ecological/ Transformative		1,758
All Four Systems	543			

PAHAL identified the need to learn more about the impacts of its integration results, leading to the initiation of a resilience measurement study, which seeks to understand how PAHAL's integration approach leads to improved resilience and consequently, how different sets of

<sup>1</sup> Additional details can be found in Annex: PAHAL Resilience Measurement Quarterly Brief

resilience interventions are leading to improved food security. Findings from three rounds of resilience measurement data collection were incorporated into the program's adaptive management technical approach and are shared throughout this report. Analyzing data from all three data collection rounds conducted over a 12-month period provided PAHAL with a deeper understanding of participant's seasonal behavior, specifically in terms of vulnerability and coping strategies used following shocks and stresses.

## PAHAL Interventions and Results

PAHAL's interventions are structured around seven sector-specific, or thematic, Sub-IOs within each of the defined four systems. Demand-side interventions are focused on participants' ability to access resilience capacities by building their knowledge, incentives, resources and linkages<sup>2</sup> through a set of community groups that include: Farmer Groups (FGs), WASH Committees, School Child Clubs, Water User Groups (WUGs), Community Forest User Groups (CFUGs), Local Disaster Management Committees (LDMCs) and Financial Literacy Training (FLT) Groups. Supply-side interventions focus on building local service providers' abilities, using the same set of sustainability factors, to effectively deliver the necessary services as part of well-functioning civil, private and public sectors. This section reports activities structured around the resilience pathways beginning with Sub-IOs to IOs to Purposes.

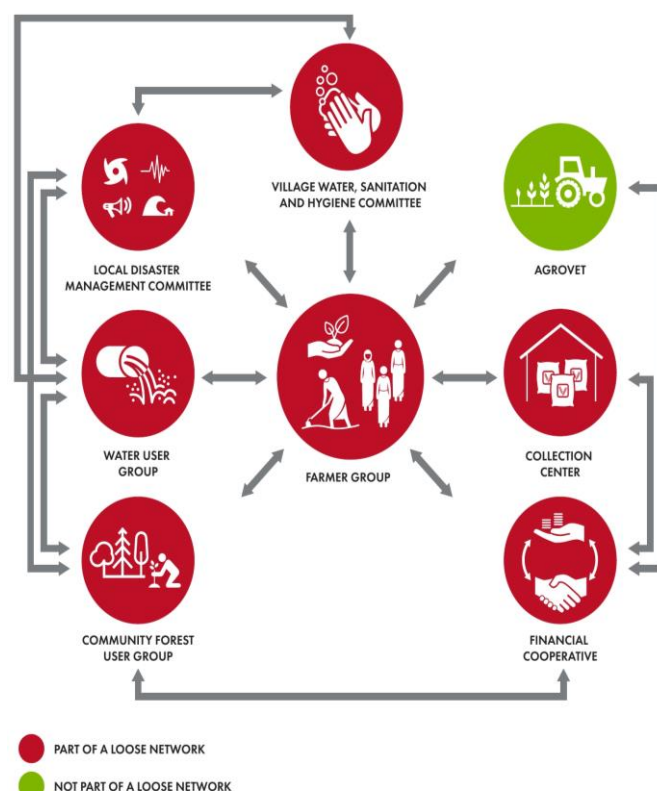


Figure 2 PAHAL Resilience Integration Approach

PAHAL's annual survey data began reporting minimal food insecurity beginning in FY17. This data was confirmed in FY18 with a lower HHS. With low levels of food insecurity reported and participants experiencing a large amount of shocks and stresses, PAHAL's resilience integration approach aimed to maintain food security in all 14 program districts and increase resilient indicators to ensure PAHAL participants would not fall back into food insecurity in the face of reoccurring shocks and stresses after PAHAL's exit.

## Building Access to Resilience Capacities for Food Security: PAHAL's Sub-IOs

### Sub-IO 1: Increased Access to Quality Health and Nutrition Services and Information

Access to health and nutrition information and services is essential to food utilization practices that not only improve well-being and lifelong productivity, but also protect HHs from health

<sup>2</sup> Rogers, Beatrice Lorge and Coates, Jennifer. 2015. Sustaining Development: A Synthesis of Results from a Four-Country Study of Sustainability and Exit Strategies among Development Food Assistance Projects. Washington, DC: FHI 360/Food and Nutrition Technical Assistance III Project (FANTA).



shocks that undermine productivity and incomes and contribute to poverty backsliding.<sup>3</sup> PAHAL's health and nutrition strategy focuses on integrating key nutrition messages across multiple sectors' interventions to ensure broad outreach and to reinforce important messages, providing participants with multiple opportunities to apply their increased nutritional knowledge and resilience capacity. A majority of direct nutrition interventions ended in September 2018 with FY19 focusing on reaffirming that households are applying the nutrition-related practices at the household level as a result of their engagement over the past four years. PAHAL verified sustained vegetable consumption behaviors through a survey of 1,709 participants (F: 1,408; M: 301), who confirmed regularly consuming fresh and nutritious vegetables from their kitchen gardens and permagardens, contributing to the improved health and nutrition status of themselves and their children.

PAHAL's nutrition messaging continued to be integrated within the economic, ecological and transformative systems' interventions, even after social system's direct interventions ceased. In FY19, PAHAL reached 9,851 participants (F: 7,971 , M: 1,880 ), including 4,308 financial literacy participants, and 5,543 kitchen garden training participants, with nutrition messages emphasizing the importance of diverse diets, including vitamin A and iron rich foods.

PAHAL's annual data indicated that health and nutrition indicators continued to progress despite direct interventions ending seven months prior to data collection. In FY19, 99.6% of adults could name two sources of vitamin-A rich foods compared to 98% in FY18, and 87% at the baseline. In addition, adults who could name two sources of iron-rich foods increased six percentage points to 98%, from 92% in FY18 and 58% at the baseline. In addition, the coordinated health and nutrition interventions contributed to an increase in access to health services from 84% to 89% (89% Female and 87% Dalit).

### ***Sub-IO 2: Better Access to Improved WASH Services, Strategies and Technologies***

PAHAL's resilience measurement study discovered that water interventions had the greatest impact on the economy in Nepal, with an 85% return on the PAHAL/local government investment costs, measured by benefits to the PAHAL households. Following a shock or stress, households generally experience higher losses, however, despite this result, households continue to benefit from the PAHAL water interventions because they have experienced increased incomes for both their agricultural produce and their kitchen gardens. In addition, water interventions, which include accessibility and utilization through water infrastructure and WASH activities, led all PAHAL technical components in having positive economic impacts.

Throughout the life of the award, PAHAL improved water accessibility by facilitating a participatory process with local government and communities to identify potential water access points, conduct feasibility analysis and vulnerability capacity assessments, construct multi-use water schemes (MUS) and ensure good governance of investments. PAHAL expanded on its contribution to accessing water resources by developing sustainable knowledge and linkages by strengthening the governance structure of community Water User Groups (WUGs). In FY19, PAHAL's water component focused on collaborating with WUGs and local government for the construction of MUSs and other water harvesting technologies in order to provide community

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<sup>3</sup> [https://www.usaid.gov/sites/default/files/documents/1861/BNG\\_resilience\\_assessment\\_report\\_4Apr2017\\_final.pdf](https://www.usaid.gov/sites/default/files/documents/1861/BNG_resilience_assessment_report_4Apr2017_final.pdf)

members with safe drinking water, increased opportunities for irrigation and more convenient water access for household uses — all of which contribute to healthier households.

In FY19, PAHAL worked with 78 WUGs to construct or rehabilitate 78 water projects, which included 29 multiple-use water, 46 irrigation and 3 water-related DRR interventions, which in total directly benefitted 9,038 participants (F: 4,464; M: 4,574; Dalit and Janajati: 3,652). PAHAL maintained fiscal responsibility by providing only 42% of the total water intervention costs, with 40% coming from the community through cash, labor and other in-kind contributions, and a final 18% cash contribution from local government.

“PAHAL taught us how to use a resilience integrative approach to development. During my visits to PAHAL integrated communities, it was my pleasure to see the real change in the living status of those community members. Capacity building initiatives of community members and the introduction of innovative water efficient technologies, like the Barsa Pump, are really effective.” — **Bir Bahadur Basnet, Chairperson, NGO Federation, Jajarkot Branch**

Beyond the construction of water schemes, PAHAL worked with WUGs to ensure effective management of the schemes and their surrounding environment. WUGs prepared and executed 38 Environmental Mitigation Plans to protect water sources, the surrounding habitats, and other water resources from contamination, together with CFUGs, LDMCs, and other relevant community groups involved in the management and protection of communities' water and other natural resources, including risk-mitigating measures. To ensure Environmental Management Plans were technically sound, the water component followed the program's Environmental Mitigation and Monitoring Plan (EMMP) and Water Quality

Assurance Plan (WQAP) to train irrigation technicians and community members during the construction of water schemes.

All WUGs established operation and management plans, which include monitoring schedules and tariff collection schemes to allow WUGs to sustainably manage the valuable water infrastructure over time without PAHAL's presence. In FY19, WUGs collected NPR 673,502 (\$6,122) through the established tariff collection schemes, for repairs and maintenance, as required. In FY19, WUGs spent 72% of collected fees on infrastructure management. One of PAHAL's planned activities in the no-cost extension, is the publishing an operation and maintenance manual for WUGs, in collaboration with the Finnish Government/EU funded Rural Village Water Resource Management Project.

As part of the Integrated Watershed Management Activity (IWMA), PAHAL implemented the Milan Dewari Irrigation Scheme in coordination with the USAID Hariyo Ban-II program, and the Hamtad Soil Cement Tank in coordination with the USAID SUSAHARA program. PAHAL also shared their expertise to USAID implementing partners on climate smart agricultural techniques, including the permagarden method and micro-irrigation technologies, which resulted in 26 households improving their intensive vegetable production on a total of 6.28 hectares.

During the first four years of the program, PAHAL provided technical support across its 14 districts, which included support to WUGs and local government. In FY19, through its collaboration with IWMA, PAHAL conducted a capacity building workshop for 30 people (F: 15; M: 15) on Institutional Governance and the Preparation of Sustainability Plans for the Milan Dewari community. In addition, as part of its exit and sustainability strategy, with the focus on building the capacity of local service providers, PAHAL trained 36 local government technical personnel (12 engineers; 16 sub-engineers; 8 assistant sub-engineers) hired by the Government of Nepal to work in PAHAL districts. Most of the newly hired local government engineers who participated in the training were extremely junior and lacked experience with water engineering. Training covered design and estimation, appropriate technology selection and site management. This training was so well received, that municipalities/rural municipalities (M/RM) requested more detailed training for its engineers, which PAHAL will provide the its No-Cost Extension period.

The Earthquake scenarios developed by PAHAL under the DRR component revealed that infrastructure, including water infrastructure, would be highly damaged in the event of an earthquake or other natural disaster. In order for vulnerable communities to mitigate this potential risk and the loss of valuable water infrastructure, PAHAL initiated discussions with several local insurance companies about providing communities with insurance coverage against this potential loss. Following these discussions, PAHAL connected 51 WUGs with insurance service providers and the local government through meetings involving 1,308 stakeholders (F: 567; M: 741). Consequently, WUGs and local government began a campaign to insure local water infrastructure, which will be continued throughout the no-cost extension period.

WASH services and technologies directly contribute to proper food utilization practices, food availability and access and help prevent health shocks. PAHAL works with marginalized groups to effectively access and manage water for domestic and productive uses to address water stresses, and conduct sanitation and hygiene practices that reduce disease outbreak.

Throughout the life of the award, PAHAL has worked with participants to establish the resources, knowledge and incentives for WASH through WASH trainings and behavior change communications. PAHAL worked with WASH Coordination Committees (WASH-CCs), school management committees and school child clubs in efforts to increase hygienic practices. In FY19, PAHAL focused its WASH interventions on reinforcing WASH community groups' linkages to the local government. PAHAL worked with 196 stakeholders from seven M/RM to develop municipal level WASH plans to guide local government in promoting good hygiene and sanitation practices. In addition, six M/RM WASH-CCs reviewed and updated their WASH plans, which included 92 government and community representatives.

Since PAHAL's inception, school-based WASH interventions have resulted in positive hygiene and sanitation behavior changes. In its shortened WASH implementation period for this year, PAHAL partnered with 70 schools, which regularly clean and maintain school toilets, taps and handwashing stations, promote menstrual hygiene management, and provide healthy learning environments for children. To set up schools for success after the program, PAHAL facilitated 42 meetings in FY19 with 1,048 stakeholders from the local government and School

Management Committees (SMCs) to ensure progress continues. In addition, 10 child clubs, involving 205 students (F 105, M: 100), rolled out school WASH action plans.

During the phase-out of WASH activities, PAHAL focused on building the institutional capacity of WASH-CCs and empowering community groups to provide continuity to WASH interventions. PAHAL maintained a relationship with M/RMs, ward-level WASH-CCs and other WASH sector stakeholders to ensure that the planned interventions were implemented properly to produce expected results. Coordination meetings organized with M/RMs and SMCs to incorporate WASH interventions and implement action plans as per annual plans. As a result, M/RMs are taking ownership of total sanitation interventions in their communities. SMCs and M/RM level dialogues were organized to implement the National School WASH Procedure-2074 at the school level. All school-level stakeholders committed to incorporating WASH Plans in their Annual School Improvement Plans, which will create an enabling environment at schools for WASH and nutrition initiative promotion.

### ***Sub-IO 3: Improved Access to Improved Disaster Risk Management Services, Strategies and Technologies***

The PAHAL disaster risk reduction (DRR) sub-system built adaptive, absorptive and transformative capacities of households and local government by increasing the availability and utilization of DRR services and technologies. Access and utilization of DRR mitigation strategies is an essential resilience capacity that enables households to better prepare for and respond to unavoidable natural disasters and to implement preventative measures that reduce exposure to vulnerabilities. As part of its exit strategy, PAHAL scaled back its direct implementation of DRR activities at the end of FY18 due to budget constraints and delays with the Government of Nepal in staffing new local government offices. Programming focused on integrating DRR messages and services across the economic, ecological and social sector interventions, as well as local government activities. PAHAL linked 136 early warning system (EWS) task forces (Mid-West: 59; Far-West: 77) with the District Emergency Operating Center (DEOC) and Department of Hydrology and Meteorology (DHM) rainfall and flood measuring stations. As a result, 14 District Disaster Management Committees (DDMCs), in partnership with the EWS task forces, developed and endorsed a communication channel that provides guidance to all stakeholders on how to disseminate early warning messages to vulnerable communities and stakeholders who are directly involved in a disaster situation.

“PAHAL supported our [district] early warning systems and preparedness, which were meaningful contributions. People want sustainable solutions regarding disasters and we are working for well-prepared disaster responses. As disaster focal point; DAO fully responsible to seek actors for disaster preparedness field.” – **Him Lal Biswakarma, Assistant Chief District Officer, District Administration Office, Rolpa**

Members of Local Disaster Management Committees (LDMCs) continued to participate in Loose Network interventions, a key activity that integrates DRR interventions across WUGs, WASH-CCs, Community Forest User Groups (CFUGs) and farmer groups (FGs). LDMCs held joint discussions with 592 participants (F: 424; M: 168) to provide feedback on the challenges

and opportunities for expanding climate information activities. PAHAL also conducted 14 joint meetings with DDMCs and other district stakeholders on improving the effectiveness of EWSs and the implementation of the Disaster Risk Reduction and Management Act 2017. In each event, PAHAL worked with the DDMCs to formulate EWS User Guidelines for DDMCs to ensure a smooth implementation during a disaster.

#### ***Sub-IO 4: Improved Access to Appropriate, Diverse Financial Services & Products***

Financial services enhance people's absorptive resilience capacity through access to diversified savings and insurance and is a crucial adaptive resilience capacity through loans and remittances. As identified in the resilience measurement study, PAHAL learned that financial services interventions have the highest returns per dollar spent (\$878.09 per dollar in present value), leading to the greatest financial benefit at the household level. Additionally, households participating in financial services had the largest financial impact on income compared to all other interventions within PAHAL. Over the life of the award, PAHAL increased the supply of financial services by building the technical, operational and governance capacities of local financial cooperatives and increasing demand of services through Financial Literacy Trainings (FLT) and outreach by cooperatives. PAHAL works with 82 financial cooperatives to build their technical and professional capacities to help them better understand community needs, thereby allowing them to sustainably operate and offer GESI-appropriate financial products and services. In FY19, cooperative membership grew by 2,979 community members (F: 1,887; M: 1,082; Dalit and Janajati: 845), which led directly to an increase in member savings of \$731,090. In FY19, the financial services sector worked with 20,171 community members and stakeholders (F: 15,245; M: 4,926; Dalit: 3,110) in order to strengthen the sustainability of the 82 financial cooperatives and increase the utilization of financial services, such as insurance schemes, remittances and business loans.

"I have seen change within several sectors such as agriculture production, sanitation status, [financial] cooperative services, etc. I have seen some community members become entrepreneurs with hotel services, electricity shops, processing, vegetable farming, and goat raising through their improved skills and income status. PAHAL's biggest achievement was empowering community members on their accountability and their social assets creation." - **Secretary of the Press Union Doti**

FLT were a key PAHAL intervention over the life of the award, as PAHAL saw consistent impacts as a result of the training. In FY19, 99.5% of FLT participants displayed financial behavior change, which included 96% of households cutting expenses, 70% joining a cooperative, 62% creating a family budget, 53% increasing savings, and 40% taking a loan. As part of the components exit strategy, PAHAL did not fund any FLT classes in FY19, but instead worked with financial cooperatives to cover all costs related to the 26-day FLT training model. During the first six months of FY19, prior to PAHAL withdrawing from financial service activities, cooperatives funded

150 FLT reaching 3,708 community members (F: 2,816; M: 912), which cost cooperatives \$8,889 from their member education accounts.

In FY19, 6,535 members (F: 4,022; M: 2,513 Dalit: 2,137) received loans totaling \$2,490,179 with 50% earmarked for agricultural businesses, 40% for off-farm business development, 1% for

DRR activities and 9% for family consumption. The average loan size increased from \$343 in FY18 to \$381 during FY19. Over the first six months, members started 2,637 new MSMEs (64% female led). The resilience measurement study found that PAHAL participants took out loans in order to pay for agricultural expenditures, including farming, rearing cattle and rearing goats. Participants also said they took loans to pay for children's education expenses and family members traveling abroad to work as well as to invest in land and cover household expenses. During this year, 51% of loan recipients indicated they made a profit, and another 42% indicated they expect to make a profit in the near future.

The financial services component increased its effort to work with financial cooperatives to support successful MSMEs in PAHAL communities. PAHAL implemented a Training of Trainers (ToT) business planning model in which 3 executive committee members from all 82 cooperatives completed a business training ToT then conducted a total of 224 trainings for cooperative members. Each training targeted community members interested in taking a loan to start a micro-enterprise. As the training model is cascaded to the cooperative members, cooperatives will be linked with wholesale lenders to access subsidized loans. PAHAL anticipates the business training and linkages to wholesale lenders will not only increase the volume of business loans after PAHAL, but will also allow members to improve business performance.

In FY19, PAHAL continued to promote insurance and remittance services through its cooperatives. During this year, six cooperatives managed 2,825 remittance transactions worth \$882,921 for PAHAL program participants. PAHAL is still working with cooperatives to access funding to procure the infrastructure needed and provide the initial deposit (approximately \$1,500) required to offer remittance management services, but the need for reliable electricity and internet still limit the speed of this process. These factors are beyond the ability of PAHAL to address, and it will likely take several years for all cooperatives to gain the ability to provide remittance services. Cooperatives were also able to facilitate 1,354 livestock insurance policies, which insured livestock valued at \$75,973. While adoption for both of these financial products remain low, each have a high potential to increase income and resilience outcomes.

### ***Sub-IO 5: Improved Access to Dynamic and Responsive Agricultural and Non-Agricultural Markets***

According to PAHAL's resilience measurement study, agricultural training, along with water access and financial services, had one of the largest impacts compared to other interventions on resilience behaviors. Access to and participation in agriculture and non-agriculture markets directly impact food availability and access and help develop essential absorptive and adaptive capacities. PAHAL's agriculture strategy links remote farmers to the regional food system while building the necessary knowledge, capacity and resources farmers require to improve production, income and utilization.

During the first four years of the program, PAHAL's agriculture approach focused on increasing production of vegetables, cereals and goats. Impacts from each of these commodities played a vital role in improving the access, availability and utilization of nutritious food in the mid and high hills, which led to a low Household Hunger Scale (HHS) report. In FY19, PAHAL's agriculture strategy built on previous years' successes by strengthening market linkages for key

commodities and diversifying farmer support to produce legumes, spices and non-timber forest products. In FY19, PAHAL reached 35,691 farmers (F: 27,540; M: 8,151) through demonstrations, trainings, meetings and market activities.

During this year, PAHAL provided 151 capacity building trainings for 2,973 farmer group members (F: 2,399; M: 574) related to improved production practices and post-harvest management of legumes, pulses and spices. Similarly, PAHAL organized 124 demonstration plots in farmers' fields and 23 farmer business schools on business planning and marketing, specifically for nexus crops, which reached 2,912 farmer group members (F: 2,299; M: 613). In addition, for effective marketing and sales, 12 aggregation points were established in remote areas with eight sites receiving training on grading, sorting and packaging for the marketing of legumes, pulses and spices. Regarding NTFPs, six trainings were provided to 126 NTFP producer group members (F: 106; M: 20) for the implementation of risk-sensitive technologies for NTFP cultivation and harvesting, which resulted in two groups creating NTFP production plans.

PAHAL focused on strengthening the sustainability of its farmer's groups in FY19. During the program's annual technical workshop, the agriculture component developed an exit strategy centered on farmer group's knowledge, resources, motivation and linkages. PAHAL rolled out this strategy through its lead farmers to all farmer groups through 1,657 strategic planning events. As a result, 121 farmer groups were registered with Rural Municipalities to strengthen their linkages and 448 groups encouraged members take out agricultural insurance policies to protect their resources. In addition, farmer groups members were linked with private sector service providers and GoN stakeholders through 38 meetings involving 779 (F: 563; M: 216) participants which establish strong linkages between remote farmers and the private sector.

PAHAL continued to promote improved and climate sensitive production technologies for increased vegetable production with 124 demonstrations using plastic houses with micro-irrigation and integrated pest management (IPM) technologies reaching 2,332 farmer group members (F: 1,811; M: 521). Similarly, PAHAL completed 70 demonstrations reaching 1,316 livestock group members (F: 1,011; M: 305) on improved goat production technologies including improved buck breeding, improved sheds, mineral blocks, dipping tanks and multipurpose nurseries for fodder. To ensure that PAHAL farmers are able to increase production while following environmentally friendly and sustainable practices, PAHAL led farmers in 57 demonstrations on personal protective equipment reaching 1,120 individuals (F: 925, M: 195) to improve their knowledge on safe handling and appropriate use of pesticides and environmentally appropriate farming practices.

PAHAL continued its success in the field of nutrition-focused agriculture with 241 lead farmers trained on permagarden techniques through 241 ToTs leading to 224 permagarden trainings for 4,548 farmer group members (F: 3,773; M: 775). PAHAL completed 271 demonstrations on cereal crop production, reaching 4,374 farmer group members (F: 3,600; M: 774) focused on improved climate and gender sensitive technologies, such as improved seeds, irrigation and suitable harvesting practices. In order to enhance farmer knowledge of vegetable production, PAHAL conducted 151 capacity building events for 2,973 participants (F: 2,399; M: 574), focusing on improved production practices, post-harvest handling and crop management. PAHAL increased its push to improve agriculture micro-enterprises with 12 capacity building

trainings for 246 famers (F: 166; M: 80) on business plan development, highlighting how to plan and finance improved inputs into their farm management.

Livestock ownership is a leading contributor to sustained escapes from poverty in Nepal, as it provides a reliable, diversified source of income for areas that are highly dependent on agriculture for food stock. In FY19, lead farmers provided 134 capacity development trainings reaching 2,762 goat farmers (F: 2,192, M: 570) on risk and climate sensitive goat production practices in coordination with input suppliers. For livestock marketing, PAHAL developed a detailed contact list of goat traders, buyers and producers, along with other government and development partners, working in 14 PAHAL districts which will be utilized by PAHAL livestock groups. PAHAL also worked with Heifer International to link some of PAHAL's livestock producer groups in Surkhet and Salyan to Heifer's established goat value chains in order to increase goat sales from these districts to major markets in Nepal.

During the year, 38 MSMEs received small business development and financing support from PAHAL to contribute to improved vegetable input supply networks, resulting in 777 farmers (F: 563, M: 214) receiving small business development services. In addition, PAHAL supported two capacity building trainings on agro-based enterprise development to MSMEs at the regional level. A total of 28 MSMEs including buyers, sellers, collectors, input suppliers and agri-cooperatives members from 14 districts participated in the training.

Under market development activities, PAHAL made progress on increased agro-vet accessibility and NTFP harvesting and marketing. For agro-vet accessibility, 40 agro-vets completed their certification from the GoN and completed the Resilience Design for Smallholder Farming Systems with PAHAL. The agriculture component also conducted meetings with the NRM component to provide training to selected NTFP farmers on sustainable harvesting and shade house construction with the objective to support farmers in effective marketing of NTFPs.

### ***Sub-IO 6: Improved Access to Productive Natural Resources and Resource Management Practices***

Sound natural resource management practices are essential to mitigating natural hazards, protecting valuable natural resources, including water sources and forests, improving soil productivity, increasing water tables and boosting agricultural productivity for increased food availability and access. In order to achieve improved access to productive natural resources and resource management, PAHAL supported Community Forest User Groups (CFUGs) to build their capacity as a key service provider tasked with providing goods and services to targeted populations in equitable and sustainable ways. PAHAL's NRM interventions assist households to diversify their incomes by providing access to resources from community forests and strengthening CFUGs in sustainably managing their community forests for long-term use.

In FY19, PAHAL continued its focus on strengthening CFUGs. While continuing to improve the technical capacity of group members, PAHAL increased its focus on improving group governance and linkages to the local government. PAHAL strengthened common resource management at Ward, M/RM and watershed levels, including governance of CFUGs, resulting in 79% of participants reporting improved access to community forest resources (IPTT 85a).



In an effort to build technical capacity and sustained knowledge, PAHAL organized 21 adaptation and DRR workshops with 369 participants (F: 165; M: 204). These workshops helped CFUGs work through a process of identifying the risk of climate change impacts within their communities and adopt adaptation measures, such as fencing, bio-engineering and gabion construction. Within the CFUG management plans, PAHAL ensured that members will continue to use income generating activities and leveraged funds from the government to conduct future adaptation measures.

“We are very grateful to see PAHAL’s achievements, especially in agricultural production, financial institutions, water schemes creation and improving community understanding on governance and GESI issues. PAHAL helped us utilize [natural] resources for improved sustainability. Coordination, collaboration and good governance in all sectors were the strong points of this program.” – **Kamal Bahadur Gadsila, Chairperson, Bogtan Fudsil Rural Municipality, Doti**

In order to strengthen institutional governance systems within CFUGs, PAHAL conducted 33 two-day workshops involving 247 chairpersons, secretaries and treasurers (F: 100; M: 147) on account and record keeping training. Workshop topics included accounting (for income generation activities) and record keeping (minute writing, letter writing, record keeping, forest products distribution record, visitors book, training registers and membership registration book). In addition, 53 CFUGs involving 2,355 participants (F: 1,171; M: 1,184) conducted an annual general assembly, where each CFUG shared their yearly financial progress, key interventions and upcoming work plans. The consolidated report was shared with the Division Forest Office (DFO) of the respective districts.

PAHAL partnered with 403 CFUGs who worked with 36,960 (Dalit: 7,960; Janajati: 6,357) households to sustainably increase access to forest resources. As a result, CFUGs managed 43,000 hectares worth of community forests through silviculture treatments, sustainable harvesting, forest protection practices and sustainable forest management techniques. Households sustainably harvested of 40,000 cubic feet of timber and 64,000 tons of leaf litter, fuel wood, and fodder. As resources were harvested, CFUG members used some of the 300,000 seedlings produced in PAHAL sponsored multipurpose nurseries to replant parts of the community forests which were barren. In addition, CFUGs allocated 272 hectares to 1,573 vulnerable households in FY19 in order to increase poor households’ access to resources and provide a more sustainable livelihood source. Each vulnerable household received technical and business planning support in order to ensure both the household and community forest benefit from the initiative. Overall, 136 CFUGs prepared business plans which identify harvesting schedules and quotas of NTFPs, will have no negative environmental impacts based on EMMP findings, and opportunities to link CFUGS to available markets.

### ***Sub-IO 7: Increased Participation, Agency and Voice of Vulnerable Groups in Governance Processes***

Participation, agency and voice of vulnerable groups are essential transformative capacities that help ensure informal norms and rules, as well as formal governance systems, are equitable and supportive of citizen’s needs. Building demand for good governance — including enabling social norms — has been integrated across PAHAL program sectors with complementary, dedicated

governance and social action interventions to ensure comprehensive systems change. PAHAL's capacity building efforts are focused on creating enabling environments with a strong transformational capacity that facilitates the use of absorptive and adaptive capacities in the face of shock and stresses.

### Key pillars of the PAHAL governance approach:

1. Promoting a **skilled and well-connected civil society** that represents the needs and demands of communities—including vulnerable and marginalized groups;
2. **Engaging and empowering** community members, including the most marginalized, in local planning and decision-making processes;
3. **Ensuring governance institutions** provide and are held accountable for the availability, quality, equity of access and responsiveness of services;
4. Increasing **relationships, trust and transparency** within and between vulnerable communities and the institutions on which they depend.



Figure 3 Four Pillars of PAHAL's Governance Strategy

When looking at participants who participated in all program systems (47,517 of participants), the largest impact on resilience outcomes for households is their confidence in their ability to access government services, while they actually demonstrated a decreased reliance on government services. Each pillar contributes to building the confidence and accessibility of government services for community members by influencing *policy, process and practice* of the local governance systems.

**Table 3** Total Number of PAHAL Loose Networks

Regions	Formed	Gender		Total
		Male	Female	
MW	82	417	660	1077
FW	45	328	570	898
<b>Total</b>	<b>127</b>	<b>745</b>	<b>1230</b>	<b>1975</b>

PAHAL utilizes its Loose Networks approach to engage and empower community members, promote a well-connected civil society, improve relationships and link settlements to ward level structures. Loose Networks, comprised of community group representatives, act as a platform for communication and dialogue with the local government to promote an inclusive planning

process. In FY19, PAHAL formed 44 Loose Networks made up of 593 individuals (F: 383; M: 210), with 44% of females in leadership positions (51% of all Loose Network leadership positions are held by females), representing approximately 4,500 community members. The formation of Loose Networks also provided an opportunity for community groups to access \$406,316 in government funding for community led food security initiatives.

**Table 4** Governance Activities by PAHAL Community Groups

Event	# of events	Male	Female	Total
Social Audit of LNGOs	10	354	160	514
General Assembly of LNGO	8	382	280	662
Organizational Capacity Index (OCI) of LNGOs	7	111	32	143
Capacity Development Plan Implementation of LNGOs	7	109	44	153
Social Audits of PAHAL supported groups	94	473	1,823	2,296
Public Hearing of RM/M and Ward Level	23	885	690	1,575
Public Audit of PAHAL Water Groups	44	549	725	1,274
Social Audit of Ward	39	1,354	1,129	2,483

To increase accountability of local groups, PAHAL facilitates and supports participatory, community-based social accountability mechanisms, including social and public audits. Social audits give community members opportunities to provide input and feedback on the effectiveness of group management, decision-making and resource-sharing. They also incorporate inclusion audits to assess the level and quality of marginalized groups' participation in decision-making. Social audits at the local level have led to increased demand for social

accountability of financial organizations and of government at the municipality and ward levels. Public audits reinforce transparency around budgets and timelines for specific projects.

As a result of PAHAL's governance component, 90% of community members used at least four government services in the past year, compared to 88% in FY18. The largest increases in demand by sector were for natural resource management which increased by eight percentage points and agriculture which increased by six percentage points.

### **Applying Resilience Strategies for Food Security: PAHAL's IOs**

As a response to the sustained knowledge, resources, incentives and linkages generated in the Sub-IOs, PAHAL participants are applying their increased resilience capacities to the four IOs.

#### ***IO 1: Improved WASH, Health and Nutrition Strategies are Effectively Employed across Diverse Caste Groups***

Over the life of the award, PAHAL households reliably demonstrated behavior changes as a result of nutrition, water and WASH interventions. In FY19, 19,529 individuals ( F: 9,822; M: 9,707; Dalit: 3,300; Janajati: 3,819) gained access to basic drinking water. A total of 5,240 (F: 3,556; M: 1,684) gained access to sanitation services as a result of PAHAL. Key WASH annual indicators continued to improve with only 10% of sanitation facilities appearing unsanitary compared to 20% in FY18, and 98% of participants know 3 out of 5 critical times to wash hands, compared to 96% in FY18.

Based on the PAHAL Resilience Measurement study, water interventions were associated with the greatest number of beneficial resilience outcomes. Households in water intervention communities rely more on positive coping strategies, improving their ability to cope and recover from actual shocks, and report feeling less vulnerable or exposed to future shocks. This

seems to have led to a positive food security outcome, where water treatment is associated with a higher Food Consumption Score, indicating that households have improved dietary diversity and sufficiency. The consistency of participants utilizing water and nutrition strategies fluctuated throughout the year with practices less common in the post-monsoon than during the lean seasons.

## ***IO 2: Improved Coping and Preparedness Strategies are Effectively Employed across Diverse Gender and Caste Groups***

PAHAL's full integration approach to resilience has led to considerable impact on households' ability to absorb stresses with deeper reliance on positive coping mechanisms; although it is not clear that the full integration programming mitigated household shock exposure. Households generally increased the frequency of positive coping strategies through FY19. On average, households used 3.4 positive coping strategies for each shock experienced. This would seem to indicate that the general response for a given household is not around a specific strategy but a collection of resources allowing households to rely on a number of response strategies. The most common positive coping strategies were maintaining a kitchen garden (67% for higher caste and 76% for lower castes), accessing CFUG resources (49% for higher castes and 47% for lower castes) and utilizing savings or loans (35% for higher castes and 38% for lower castes).

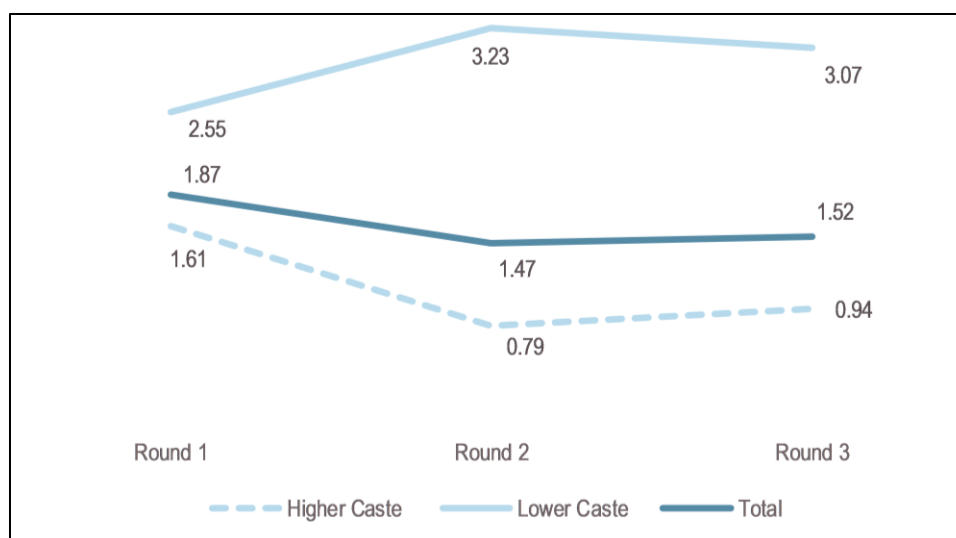
Both caste groupings appear to use similar coping strategies, with the largest differences being higher-castes who tend to rely more than lower castes on income from improved agriculture and livestock production and non-farm livelihood activities and income. Lower-caste households that experienced a shock were marginally more likely to use at least one positive coping strategy (87% of households), whereas 83% of shock-affected higher-caste households used at least one positive coping strategy in Round 3 of PAHAL's resilience research. Lower-caste households used 3.6 positive coping strategies in response to a shock on average in Round 3, compared to 3.3 coping strategies used by higher-caste households.

As seen in FY18, few households use negative coping strategies in the face of shocks and stresses. When households do use negative coping strategies, relying on less expensive foods and purchasing food on credit were the most common methods—although both methods decreased in frequency throughout the resilience measurement study.

The Coping Strategies Index (CSI) is a measure of negative coping strategies in the face of a stress or shock, such as reliance on less preferred or less expensive foods, borrowing food, purchasing food on credit, harvesting immature crops, consuming seed stock held for the next season, sending family members elsewhere to eat or to beg for food or restricting the amount of food available to family members. Evidence of these behaviors are used to calculate CSI scores, based on weights for how severe these behaviors are in the Nepalese cultural context from the Food for Peace baseline survey in Nepal.<sup>4</sup> Higher CSI scores suggest an increased use of negative coping strategies in response to short-term household food insecurity.

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<sup>4</sup> See ICF International (2017).



**Figure 4** Coping Strategies Index (CSI) Score (lower numbers are better)

\* All households (n) = 1,327 (Round 1), n = 1,312 (Round 2), n=1,307 (Round 3)

\*\* Higher-caste households n = 979 (Round 1), n = 950 (Round 2), n= 945 (Round 3). Lower-caste households in n = 371 (Round 1), n=362 (Round 2), n=362 (Round 3)

While most households do not seem to revert to negative coping strategies in response to the shocks they experienced over all rounds of data collection, they still convey a high level of unpreparedness for future shocks and a low confidence in their ability to recover from future shocks. However, over time, the PAHAL sample overall has been increasing in their reported shock preparedness and confidence in future shock recovery. Social connectedness overall has increased dramatically in each round since Round 1, using a metric that measures reliance on others for labor, finances, goods, services and business. Most survey respondents within their community (93 %), followed by households of the same caste (88 %), and their farmer groups (86 %). Households which participated in NRM, DRR and governance interventions were most likely to cultivate social networks beyond their own castes.

### **IO 3: Effective Adaptive Agricultural and Off-Farm Livelihood Strategies Are Employed Across Diverse Gender and Caste Groups.**

Commercial vegetable farmers have shown increased adoption of improved practices during the data collection period, whereas livestock farmers have generally tended to maintain their current practices and cereal crop producers have shown signs of using fewer improved practices throughout FY19. Overall, 100% of farmers used at least one improved farming technique across all commodities with no distinction between gender and caste. With all farmers using improved practices, the annual survey data did not find a distinction between adoption rates and yield except a 17% increase in cereal yield for farmers who used drought resistant seed.

The average PAHAL household increasingly diversified its agricultural production. Since farmers were unable to meaningfully increase their land size, we examined farmers planting decisions. In FY19, farmers decreased the amount of land for cereal crops by 25%, increased their small-scale kitchen garden by threefold and 6 percentage of farmers planted legumes and spices on .175 hectares (approximately 25% of cultivated land for the year).

The resilience measurement study found several resilience outcomes from financial services beyond the traditional impacts. As a result of PAHAL including GESI initiatives in its financial services component, households who participated in financial services activities were statistically more likely to cultivate social networks beyond their own castes.<sup>5</sup> Households who participated in financial services were statistically more likely to utilize resilience strategies to respond to shocks and stresses than households who just participated in agriculture, nutrition and WASH interventions.

In addition, PAHAL agricultural households that received financial services interventions are each expected to receive \$878 extra benefit over the next 10 years compared to households who only received the basic agricultural + WASH + nutrition training.<sup>6</sup> Household savings are cyclical based on the Nepali year as seen in the resilience measurement panel data. Saving rates dipped in October after the monsoon but household savings rates increased to the FY18 rate by April 2019. Loan values increased 16.7% in FY19 compared to FY18, despite PAHAL not directly offering FLT classes during the year, suggesting that many cooperatives reached a status which they can sustainably operate.

Participant confidence in the stability of their livelihoods slightly decreased to 32% compared to 38% in FY18. This metric coincides with a slight increase in reported shocks and stresses in FY19 including heavy hailstorms, and two shocks that weren't significantly reported in previous reports — agriculture loss due to early snowfall and wildlife damage. In focus group discussions, participants expressed that the amount of money needed to feel fully prepared is beyond their means, citing the need for major capital investments, such as fences and safety nets to prevent landslides.

#### ***IO 4: Governance Systems – Formal and Informal – are Accountable, Equitable, and Effective in Supporting Vulnerable Populations across Diverse Caste & Gender groups***

Results related to governance systems continue to improve the longer PAHAL implements its Loose Network approach and federalism is established in Nepal. In FY19, 90% of participants reported using at least four government services compared to 88% in FY18 (IPTT 75). There was greater disparity between caste groups as Dalit and Janajati only reported 85%. However, 98% of marginalized households reported confidence in their civil society representation, compared to 95% in FY18 and a baseline of 61%, with no disparity between Brahmin and Dalit castes (IPTT 87). Citizens rated the government's ability to be responsive to citizens needs at 3.75 out of 4, an increase from 3.6 in FY18, indicating that the local government is increasingly meeting the needs of its citizens.

Data indicates that the local government branches are becoming more accessible to its citizens and that PAHAL participants are taking more of an active role. The percentage of community members who can describe at least three methods for contacting the local government increased to 42% compared to 26% in FY18. In addition, there were 20 laws, policies and regulations passed in FY19 which were a result of PAHAL interventions. The 20 laws, policies

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<sup>5</sup> At a 90% confidence interval

<sup>6</sup> Results from the PAHAL Resilience Measurement Final Report. September 2019.

and regulations represent 66% of the life of award result—a strong indication that PAHAL’s Loose Networks, which began in FY18, is taking effect. In addition, as evidence that community groups and members are a part of the participatory planning process — PAHAL groups submitted 108 formal proposals as part of the fiscal year planning process in which 80% were approved for a total of \$58,995. PAHAL expects Loose Networks to continue to work with local government beyond the life of the program and that results regarding the governance system will continue to improve over time.

### **PAHAL’s Progress Towards Food Security: Purpose-level Results**

PAHAL’s purposes aligns with the three pillars of food security: access, availability and utilization. PAHAL’s annual data collection and resilience measurement studies collects data on each pillar as well as key food security indexes. In FY19, PAHAL measured three different food security indicators to understand the level of food security in its communities and the behavior of participants in relation to food insecurity. Annual data determined the Household Hunger Score (HHS), which measures food security over the past 30 days, dropped to 0.07, compared to 0.18 last year, indicating little to no hunger in the households.

The Food Consumption Score (FCS) is an index that was developed by the World Food Program in 1996 and is a measure of household access to different types of important nutrition for households. The FCS aggregates household-level data on the diversity and frequency of food groups consumed over the previous seven days from the survey date. This data is then weighted according to the relative nutritional value of the consumed food groups. Based on this score, a household’s food consumption can be further classified into one of three categories: poor, borderline, or acceptable. The food consumption score is a proxy indicator of household caloric availability.<sup>7</sup> The higher the score the more “acceptable”. Using the typical FCS thresholds<sup>8</sup>, the number of households with “acceptable” food security was 91% in May 2018, which increased to 96% in October 2018, and decreased back to 90% in April 2019. Of the households that have poor or borderline caloric availability, lower-caste households were more likely to have poor or borderline scores than higher-caste households.

The third major index, the Coping Strategies Index (CSI) is a measure of negative coping strategies in the face of a stress or shock such as reliance on less preferred or less expensive foods, borrowing food, purchasing food on credit, harvesting immature crops, consuming seed stock held for next season, sending family members elsewhere to eat or to beg for food, or restricting the amount of food available to family members. Evidence of these behaviors are used to calculate CSI scores, based on weights for how severe these behaviors are in the Nepalese cultural context from the Food For Peace baseline survey in Nepal.<sup>9</sup> Higher CSI scores suggest an increased use of negative coping strategies in response to short-term household food insecurity. In FY19, CSI scores ranged from 1.47 to 1.87 indicating that few

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<sup>7</sup> The International Dietary Data Expansion Project provides a detailed explanation here: <https://inddex.nutrition.tufts.edu/data4diets/indicator/food-consumption-score-fcs>

<sup>8</sup> Poor households score between 0-21; Borderline households score between 21.5 and 25, and Acceptable households score 35.5 and above.

<sup>9</sup> See ICF International (2017).

PAHAL participants utilized negative coping strategies throughout the year, even during lean season and monsoons.

In order to achieve these food security and resilience impacts, many PAHAL activities are tailored to meet multiple food security pillars. Throughout the program, PAHAL participants gradually produced more food for household consumption. PAHAL farmers are applying key capacities from agriculture, financial services, water and natural resource management to improve their food availability. In FY19, participants adjusted their behavior patterns to diversify their food production. Cereal production decreased by 27% as farmers chose to devote 23% less land to cereal crops and they chose to consume 84% of production, a slight increase from last year. This change in planting decisions may indicate that farmers are trying to be efficient with their cereal production and only produce what they will consume — then devote the remaining land to other crops which are more expensive in the market. Despite the increase in reported shocks to the agriculture system this year, the amount of cereal production lost decreased from 13% to 6.1% in FY19.

Kitchen gardens had one of the highest adoption rates of PAHAL interventions and continue to be a key intervention for food availability, access and utilization. During the second half of the program, PAHAL also rolled out permagardens, which are home gardening methods more suitable for low-resource households with limited access to land. By promoting multiple intensive gardening methods, one focused on adoption of improved climate-sensitive technologies and the other focused on utilizing natural, local resources, PAHAL is equipping households to grow vegetables year-round. Both interventions led to increased vegetables in PAHAL households with kitchen gardens producing 15,276 kg/ha of vegetables and permagardens producing 24,857 kg/ha. Households with kitchen gardens consumed 71% of their production and were able to have a profit margin of 68% by only selling 12% of production. Households with permagardens consumed 65% of production and had a profit margin of 62% by selling 19% of production. As this is the first year for most permagardens, PAHAL anticipates profit margins to increase in the second and third years of production after PAHAL.

Income generated through diverse cash crop production, access to natural resources and enterprise development positively impacted food access for PAHAL program participants. PAHAL's 8,452 goat farmers earned \$238 on average in FY19, compared to \$258 in FY18, as a result of farmers selling on average 2.35 goats compared to 3.71 last year. The 8% decrease in goat income versus the 20% decrease in average number of goats sold indicate a large increase in price per goat. Overall production remained similar to FY18 with the average farmer producing 4.1 goats compared to 4.27 last year.

Income from commercial vegetables in FY19 decreased slightly from \$255 to \$234 in FY19. Farmers planted 5% less land for commercial vegetables which accounts for over half of the drop in income with the remaining income loss a result of increase agricultural shocks. Overall, commercial vegetable yields remained consistent to FY18 with bitter melon, cauliflower, cucumber and tomato having a slightly higher yield per hectare this year and cabbage and chilies have a slightly lower yield per hectare. The biggest change in food access in FY19 is the newly



PAHAL supported legumes and spices crops. PAHAL farmers who planted legumes generated \$126 on average and spice farmers averaged \$175.

PAHAL's focus on intensive vegetable production and its integration of nutrition messages with each system contributed to strong food utilization practices throughout the life of the program. In FY19, annual surveys indicated participants were consuming a diverse diet with the average respondent consuming green vegetables 4.61 days per week and dairy 2.24 days per week. Overall, in the only discrepancy in eating behaviors between castes was that higher castes were consuming non-green vegetables at a slightly higher rate and lower castes consumed meat more often than higher castes.

Through FY19, the PAHAL program reached 80,822 households (IPTT 97a) including, 97,587 unique participants with USD assistance. This number is similar to FY18 as PAHAL already exceeded its total program target participant numbers in FY18, and FY19 activities were devoted on increasing systems integration.

## Challenges, Successes, and Lessons Learned

PAHAL incorporated lessons learned from several evaluations, assessments and studies including its Resilience Measurement study, which collected panel data three times, as well as through quarterly reports. The FY18 ARR and FY19 Q1, Q2, and Q3 quarterly reports are on the DEC. Final reports from its FY19 learning initiatives are included as annexes on the ARR.

### Challenges

- *Water Infrastructure Input Suppliers* — Water User Groups faced numerous challenges acquiring resources from the input suppliers in the difficult to reach communities of PAHAL. WUG members spent a lot of time manually transferring the materials to the construction sites.
- *Administrative Boundaries* — Due to the change in administrative boundaries, the existing Village WASH-CC and Ward WASH-CC ceased functioning. Due to this in FY19, PAHAL was not able to plan any related activities, which caused some key missing linkages. PAHAL included the past representatives of Village-WASH-CCs and Ward-WASH-CCs in its Loose Networks, with a hope that the individuals will elect themselves into new WASH-CCs, when similar structures are made in the future.
- *New DRR Act* — Nepal received a new DRR Act in FY18. However, the central and regional governments were not able to start implementing the guidelines that addressed the act and structures were not set up at the provincial, district and local level. PAHAL has included the past representatives of Local Disaster Management Committees (LDMCs) in its Loose Networks with a hope that the individuals get involved again when similar structures are made at the local level in the future.

### Successes

- *Close coordination with local government officials* — Since the Government of Nepal restructure, PAHAL has worked closely with local government officials. A strong governance system, which is capable, accountable, and transparent is critical to maintain

program successes. In July 2019, PAHAL held close-out events in each district, which were well attended by government staff who passed along strong messages of support to PAHAL, some of which are included as quotes in this document. Furthermore, PAHAL's resilience measurement study examined the relationship of PAHAL's interventions on accessing local government services. The study found that the more program components each participant was reached with, the more their confidence in accessing government services increased; however, their usage of services decreased, indicating that participants became more self-reliant the more they engaged in program activities.

## Lessons Learned

- *Cost-benefit analysis of PAHAL interventions* — As part of the resilience measurement study, PAHAL, through its research partner Causal Design, compared the costs of interventions versus its monetized benefit. Four sets of intervention packages (1. Water, 2. Financial Services, 3. DRR/NRM/Governance and 4. All Interventions) were statistically compared to a more standard food security package of agriculture, nutrition and WASH interventions. Results found that Financial Services had the largest financial benefit per dollar (\$878) followed by water access (\$658). All packages provide a substantial financial benefit to PAHAL participants, but one treatment group, DRR/NRM/Governance had a negative economic impact, meaning that the benefits did not outweigh the costs over a ten-year horizon. However, as mentioned in the final report, there were limitations to the research and additional information is needed to fully analyze these results.<sup>10</sup>
- *Agriculture Management Information System* — The lessons from the AMIS pilot assessment point to four key areas that must be enhanced to improve the accessibility and utility of climate information in the pilot area<sup>11</sup>:
  - **Enhanced Redundancy:** There must be a large number of trusted communication channels for information to flow to remote communities including agrovet, heads of farmer cooperatives, local radio stations, government extension agents and Agriculture Knowledge Centers.
  - **Raise Awareness:** NGO and government partners must work together in a coordinated effort to strengthen capacity and raise awareness of the importance and value of agro-climatic information.
  - **Deepen Government Partnership:** Programs like PAHAL can be essential government partners in climate information interpretation and dissemination. At the national level, they can play a greater role in supporting the development of AMIS agricultural advisories. At the municipality level, they can support capacity strengthening of M/RMs and Agriculture Knowledge Centers and facilitating conversations on information flows; and they can engage with government extension agents to build technical capacities.
  - **Integrate with Other Program Activities:** To enhance its effectiveness, agro-climate information must be strategically integrated across program interventions, including within farmer groups, as savings groups or cooperatives, women's groups, health interventions, and livestock groups.

<sup>10</sup> Further information can be found in the resilience measurement PAHAL Evaluation: Final Evaluation report.

<sup>11</sup> Additional details can be found on the PAHAL AMIS Study Report.

## List of Attachments uploaded in PRT

All required attachments have been uploaded and submitted in the PRT by November 4, 2019. However, PAHAL will not be able to upload endline/final evaluation results in PRT due to a delay in conducting the final evaluation by a contracted third party. PAHAL requests USAID/FFP to keep PRT open until after the survey to upload the final evaluation results when ready. As noted on the cover page, the following attachments have been uploaded into PRT. There is also a link provided to the DDL where PAHAL datasets can be found.

### Indicator Performance Tracking Table (IPTT)

- 1) Component A: ARR Narrative
- 2) Component B: IPTT
- 3) Component C: IPTT Indicator Data Source Descriptions
- 4) Component D: ABCD Report
- 5) Component D: AGCD Report
- 6) Component D: AIMS Assessment Report
- 7) Component D: Earthquake Scenario Report-Bajhang
- 8) Component D: Earthquake Scenario Report-Dadeldhura
- 9) Component D: Earthquake Scenario Report-Rukum West
- 10) Component D: Governance Case Study
- 11) Component D: Internal DQA
- 12) Component D: PAHAL Evaluation-Quarterly Briefs 2
- 13) Component D: PAHAL Evaluation-Quarterly Brief 3
- 14) Component D: PAHAL Evaluation-Final Report
- 15) Component E: Success Story 1-Where Water is Wealth
- 16) Component E: Success Story 2-Increasing Access and Strengthening Linkages
- 17) Component E: Success Story 3- Effective Service Delivery Through Good Governance
- 18) DDL Link: <https://usaid-ddl-dev.data.socrata.com/profile/wtku-gue3>

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